



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2015-4810; Directorate Identifier 2015-NM-090-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Airbus Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all Airbus Model A330-200, -200 Freighter, and -300 series airplanes; and all Airbus Model A340-200, -300, -500, and -600 series airplanes. This proposed AD was prompted by a report of blockage of Angle of Attack (AOA) probes during climb, leading to activation of the Alpha Protection (Alpha Prot) while the Mach number increased. This activation could cause a continuous nose-down pitch rate that cannot be stopped with backward sidestick input, even in the full backward position. For certain airplanes, this proposed AD would require replacing certain AOA sensors (probes) with certain new AOA sensors. For certain other airplanes, this proposed AD would also require inspections and functional heat testing of certain AOA sensors for discrepancies, and replacement if necessary. We are proposing this AD to prevent erroneous AOA information and Alpha Prot activation due to blocked AOA probes, which could result in a continuous nose-down command and consequent loss of control of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Airbus SAS, Airworthiness Office – EAL, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com); Internet <http://www.airbus.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

**Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-4810; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Vladimir Ulyanov, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1138; fax 425-227-1149.

**SUPPLEMENTARY INFORMATION:****Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2015-4810; Directorate Identifier 2015-NM-090-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## **Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive 2015-0134, dated July 8, 2015 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all Airbus Model A330-200, -200 Freighter, and -300 series airplanes; and Model A340-200, -300, -500, and -600 series airplanes. The MCAI states:

An occurrence was reported where an Airbus A321 aeroplane encountered a blockage of two Angle of Attack (AOA) probes during climb, leading to activation of the Alpha Protection (Alpha Prot) while the Mach number increased. The flight crew managed to regain full control and the flight landed uneventfully. It was determined that the affected AOA probes are also fitted on A330 and A340 aeroplanes.

When Alpha Prot is activated due to blocked AOA probes, the flight control laws order a continuous nose down pitch rate that, in a worst case scenario, cannot be stopped with backward sidestick inputs, even in the full backward position. If the Mach number increases during a nose down order, the AOA value of the Alpha Prot will continue to decrease. As a result, the flight control laws will continue to order a nose down pitch rate, even if the speed is above minimum selectable speed, known as VLS.

This condition, if not corrected, could result in loss of control of the aeroplane.

Investigation results indicated that aeroplanes equipped with certain UTC Aerospace (UTAS, formerly known as Goodrich) AOA sensors, or equipped with certain SEXTANT/THOMSON AOA sensors, appear to have a greater susceptibility to adverse environmental conditions than aeroplanes equipped with the latest Thales AOA sensor, Part Number (P/N) C16291AB, which was designed to improve AOA indication behaviour in heavy rain conditions.

Having determined that replacement of these AOA sensors is necessary to achieve and maintain the required safety level of the aeroplane, EASA issued AD 2015-0089, to require modification of the aeroplanes by replacement of the affected P/N sensors, and, after modification, prohibits (re-) installation of those P/N AOA sensors. That [EASA] AD also required repetitive detailed visual inspections (DET) and functional heating tests of certain Thales AOA sensors and provided an optional terminating action for those inspections.

Since EASA AD 2015-0089 was issued, based on further analysis results, Airbus issued Operators Information Transmission (OIT) Ref. 999.0017/15 Revision 1, instructing operators to speed up the removal from service of UTAS P/N 0861ED2 AOA sensors.

For the reasons described above, this [EASA] AD retains the requirements of EASA AD 2015-0089, which is superseded, but reduces the compliance times for aeroplanes with UTAS P/N 0861ED2 AOA sensors installed.

You may examine the MCAI in the AD docket on the Internet at

<http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-4810.

#### **Related Service Information under 1 CFR part 51**

Airbus has issued the following service information:

- Service Bulletin A330-34-3215, Revision 02, dated March 29, 2010.
- Service Bulletin A330-34-3228, dated October 7, 2009.

- Service Bulletin A330-34-3315, dated March 26, 2015.
- Service Bulletin A340-34-4215, Revision 02, dated March 29, 2010.
- Service Bulletin A340-34-4234, dated October 7, 2009.
- Service Bulletin A340-34-4294, dated March 26, 2015.
- Service Bulletin A340-34-5062, Revision 01, dated March 29, 2010.
- Service Bulletin A340-34-5070, dated October 9, 2009.
- Service Bulletin A340-34-5105, dated March 26, 2015.

The service information describes procedures for replacing certain pitot probes with certain new pitot probes. The service information also describes procedures for inspections and functional heat testing of certain pitot probes, and replacement if necessary. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of this NPRM.

#### **FAA's Determination and Requirements of this Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of these same type designs.

#### **Costs of Compliance**

We estimate that this proposed AD affects 55 airplanes of U.S. registry.

### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replacement	5 work-hours X \$85 per hour = \$425	\$0	\$425	\$23,375
Inspection/test	3 work-hours X \$85 per hour = \$255	\$0	\$255 per inspection/test cycle	\$14,025

We have received no definitive data that would enable us to provide a cost estimate for the on-condition actions specified in this proposed AD.

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct

effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Airbus:** Docket No. FAA-2015-4810; Directorate Identifier 2015-NM-090-AD.



**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the airplanes, certificated in any category, identified in paragraphs (c)(1) and (c)(2) of this AD, all manufacturer serial numbers.

(1) Airbus Model A330-201, -202, -203, -223, -223F, -243, -243F, -301, -302, -303, -321, -322, -323, -341, -342, and -343 airplanes.

(2) Airbus Model A340-211, -212, -213, -311, -312, -313, -541, and -642 airplanes.

**(d) Subject**

Air Transport Association (ATA) of America Code 34, Navigation.

**(e) Reason**

This AD was prompted by a report of blockage of two Angle of Attack (AOA) probes during climb, leading to activation of the Alpha Protection (Alpha Prot) while the Mach number increased. This activation could cause a continuous nose-down pitch rate that cannot be stopped with backward sidestick input, even in the full backward position. We are issuing this AD to prevent erroneous AOA information and Alpha Prot activation due to blocked AOA probes, which could result in a continuous nose-down command and consequent loss of control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Replacement of Certain UTAS AOA Sensors**

For airplanes on which any UTAS AOA sensor having part number (P/N) 0861ED or P/N 0861ED2 is installed: At the applicable time specified in paragraph (h) of this AD, replace all Captain and First Officer AOA sensors (probes) having P/N 0861ED or 0861ED2 with AOA sensors having Thales P/N C16291AB, in accordance with the Accomplishment Instructions of the applicable service information identified in paragraph (g)(1), (g)(2), or (g)(3) of this AD.

(1) Airbus Service Bulletin A330-34-3315, dated March 26, 2015 (for Model A330 airplanes).

(2) Airbus Service Bulletin A340-34-4294, dated March 26, 2015 (for Model A340-200 and -300 airplanes).

(3) Airbus Service Bulletin A340-34-5105, dated March 26, 2015 (for Model A340-500 and -600 airplanes).

**(h) Compliance Times for the Requirements of Paragraph (g) of this AD**

Do the actions required by paragraph (g) of this AD at the applicable time specified in paragraph (h)(1) or (h)(2) of this AD.

(1) For airplanes with AOA sensors having P/N 0861ED: Within 22 months after the effective date of this AD.

(2) For airplanes with AOA sensors having P/N 0861ED2: Within 7 months after the effective date of this AD.

**(i) Replacement of Certain SEXTANT/THOMSON AOA Sensors**

For airplanes on which any SEXTANT/THOMSON AOA sensor having P/N 45150320 is installed: Within 22 months after the effective date of this AD, replace all SEXTANT/THOMSON AOA sensors (probes) having P/N 45150320 with AOA sensors having Thales P/N C16291AB, in accordance with the Accomplishment Instructions of the applicable service information identified in paragraph (i)(1) or (i)(2) of this AD.

(1) Airbus Service Bulletin A330-34-3228, dated October 7, 2009 (for Model A330-200 and -300 airplanes).

(2) Airbus Service Bulletin A340-34-4234, dated October 7, 2009 (for Model A340-200 and -300 airplanes).

**(j) Repetitive Inspections/Tests of Certain Thales AOA Sensors**

For airplanes on which one or more Thales AOA sensor having P/N C16291AA is installed: Before the accumulation of 17,000 total flight hours on the AOA sensor since first installation on an airplane, or within 6 months after the effective date of this AD, whichever occurs later; and thereafter at intervals not to exceed 3,800 flight hours; do a detailed inspection of the three AOA sensors at FINs 3FP1, 3FP2, and 3FP3 for discrepancies (e.g., the vane of the sensor does not deice properly), and a functional heating test of each AOA sensor having P/N C16291AA, in accordance with the Accomplishment Instructions of the applicable service information identified in paragraph (j)(1), (j)(2), or (j)(3) of this AD.

(1) Airbus Service Bulletin A330-34-3215, Revision 02, dated March 29, 2010  
(for Model A330-200 and -300 airplanes).

(2) Airbus Service Bulletin A340-34-4215, Revision 02, dated March 29, 2010  
(for Model A340-200 and -300 airplanes).

(3) Airbus Service Bulletin A340-34-5062, Revision 01, dated March 29, 2010  
(for Model A340-500 and -600 airplanes).

**(k) Corrective Actions**

If any discrepancy is found during any inspection required by paragraph (j) of this AD, or if any test is failed during the heating test required by paragraph (j) of this AD: Before further flight, replace all affected AOA sensors with sensors identified in paragraph (k)(1) or (k)(2) of this AD, in accordance with the Accomplishment Instructions of the applicable service information identified in paragraph (j)(1), (j)(2), or (j)(3) of this AD.

(1) Replace with AOA sensors having Thales P/N C16291AA, on which the inspection and test required by paragraph (j) of this AD were passed.

(2) Replace with AOA sensors having Thales P/N C16291AB.

**(l) Airplanes Excluded from Certain Requirements**

(1) The actions specified in paragraphs (g), (i), (j), and (k) of this AD are not required, provided that the conditions specified in paragraphs (l)(1)(i), (l)(1)(ii), and (l)(1)(iii) of this AD are met.

(i) Airbus Modification 58555 (installation of Thales P/N C16291AB AOA sensors) has been embodied in production.

(ii) Airbus Modification 46921 (installation of UTAS AOA sensors) has not been embodied in production.

(iii) No AOA sensor having SEXTANT/THOMSON P/N 45150320 or UTAS P/N 0861ED or P/N 0861ED2 has been installed on the airplane since date of issuance of the original airworthiness certificate or date of issuance of the original export certificate of airworthiness.

(2) The actions specified in paragraphs (g) and (i) of this AD are not required, provided that all conditions specified in paragraphs (l)(2)(i), (l)(2)(ii), and (l)(2)(iii) of this AD are met.

(i) Only AOA sensors with P/Ns approved after the effective date of this AD have been installed.

(ii) The AOA sensor P/N is approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; the European Aviation Safety Agency (EASA); or Airbus's EASA Design Organization Approval (DOA).

(iii) The installation is accomplished in accordance with airplane modification instructions approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; the EASA; or Airbus's EASA DOA.

**(m) Optional Terminating Modification**

Replacement of all Thales AOA sensors having P/N C16291AA with Thales AOA sensors having P/N C16291AB, in accordance with the Accomplishment Instructions of the applicable service information identified in paragraph (m)(1), (m)(2),

or (m)(3) of this AD, terminates the repetitive inspections and functional heating tests required by paragraph (j) of this AD.

(1) Airbus Service Bulletin A330-34-3228, dated October 7, 2009 (for Model A330-200 and -300 airplanes).

(2) Airbus Service Bulletin A340-34-4234, dated October 7, 2009 (for Model A340-200 and -300 airplanes).

(3) Airbus Service Bulletin A340-34-5070, dated October 9, 2009 (for Model A340-500 and -600 airplanes).

**(n) Parts Installation Prohibitions**

(1) For airplanes on which only Thales P/N C16291AB AOA sensors are installed as of the effective date of this AD: No person may install, on any airplane, a Thales AOA sensor having P/N C16291AA as of the effective date of this AD.

(2) For airplanes on which the modification specified in paragraph (m) of this AD has been done: No person may install, on any airplane, a Thales AOA sensor having P/N C16291AA after accomplishing the specified modification.

(3) For airplanes on which Thales P/N C16291AA or P/N C16291AB AOA sensors are installed as of the effective date of this AD: No person may install, on any airplane, a UTAS AOA sensor having P/N 0861ED or P/N 0861ED2, or a SEXTANT/THOMSON AOA sensor having P/N 45150320, as of the effective date of this AD.

(4) For airplanes on which the replacement required by paragraph (i) of this AD has been done: No person may install, on any airplane, a UTAS AOA sensor having

P/N 0861ED or P/N 0861ED2, or a SEXTANT/THOMSON AOA sensor having P/N 45150320, after accomplishing the replacement.

(5) For airplanes on which the replacement required by paragraph (g) of this AD has been done: No person may install, on any airplane, a UTAS AOA sensor having P/N 0861ED or P/N 0861ED2, or a SEXTANT/THOMSON AOA sensor having P/N 45150320, after accomplishing the replacement, except that a UTAS AOA sensor having P/N 0861ED may be installed in the standby position of that airplane.

**(o) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Vladimir Ulyanov, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1138; fax 425- 227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Contacting the Manufacturer:** For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the EASA; or Airbus's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(p) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2015-0134, dated July 8, 2015, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-4810.



(2) For service information identified in this AD, contact Airbus SAS, Airworthiness Office – EAL, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com); Internet <http://www.airbus.com>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on October 30, 2015.

Michael Kaszycki,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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